

GAMBURG, R. L.; BUKLANOVA, V. F.; ZELENETSKAYA, S. S.; KIRKEVICH, A. M.

ANTIBIOTICS

Use of albomycin in pneumonia in young children. Novosti med. no. 23, 1951.

9. Monthly List of Russian Accessions, Library of Congress, December 1957, Uncl.
2

ZELENETSKAYA, S.S., aspirant

Diagnostic significance of the Dick test and the precipitation reaction for obliterated scarlet fever cases. Vop.ohh.mat. 1 det.
1 no.4:32-38 Jl-Ag '56. (MLRA 9:9)

1. Iz infektsionnogo otdela (zav. - prof. M.Ye. Sukhareva) kafedry pediatrii (zav. -prof. G.N.Speranskiy) TSentral'nogo instituta usovershenstvovaniya na baze bol'nitsy imeni Botkina (glavnnyy vrach - prof. A.N.Shabanov) Moskva.
(SCARLET FEVER)

GAMBURG, R.L., BUKLANOVA, V.F., ZELENTSKAIA, S.S., KIRKEVICH, A.M.

Children - diseases

Use of albomycin in pneumonia in young children. Novosti med., no. 23, 1951.

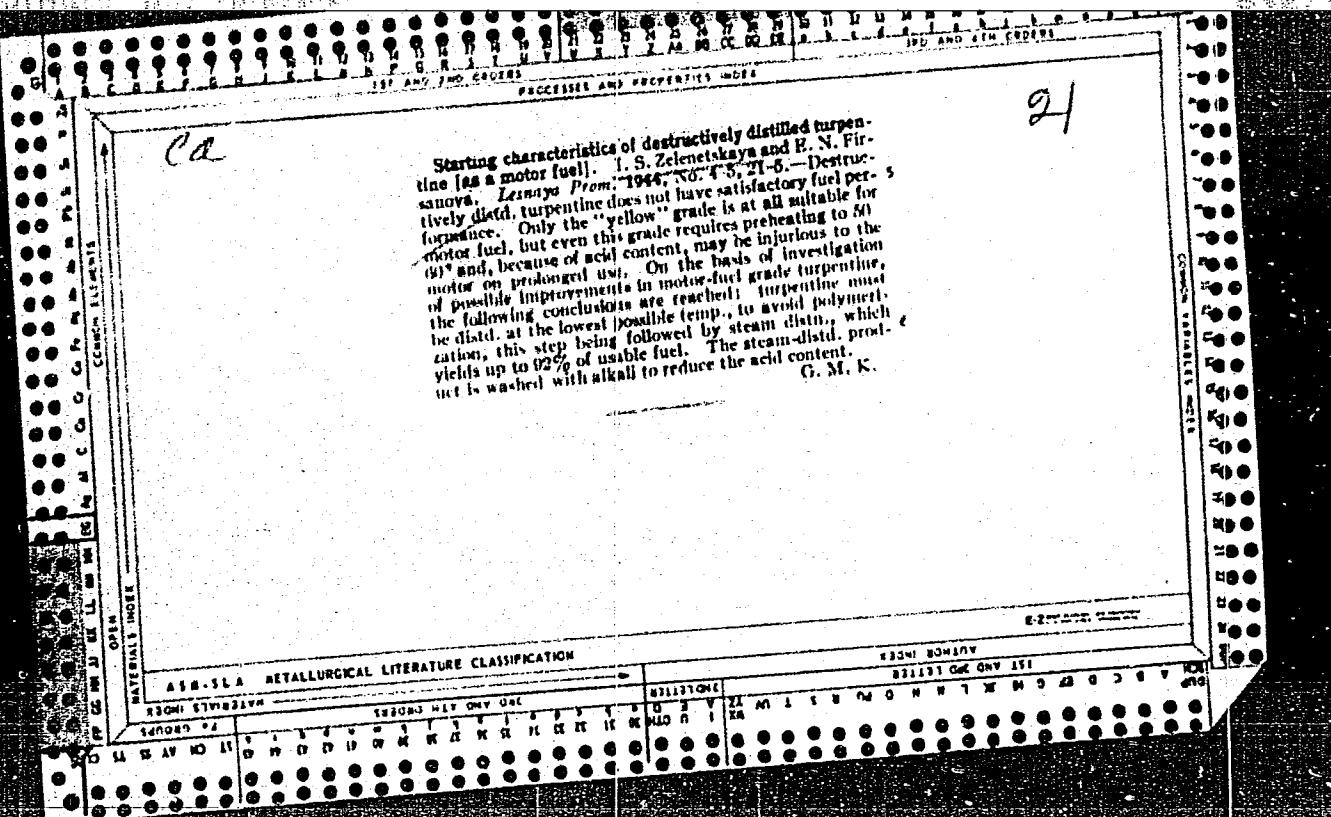
9. Monthly List of Russian Accessions, Library of Congress, DECEMBER 1952, 1953. Unclassified.

ZELENETSKAIA, S.S., KIRKOVICH, A.M., GUBBURG, R.L., BULANOV, V.O.

Pneumonia

Use of albowycin in pneumonia in young children. Novosti med. no. 23, 1951.

9. Monthly List of Russian Accessions, Library of Congress, DECEMBER 1958 Unclassified.
December



SOV/68-58-11-15/25

AUTHORS: Isayenko, I.P., Kholoptsev V.P. and Zelenetskiy A.G.

TITLE: Methods of Improving the Distillation of Coal Tar (Puti uluchsheniya distillyatsii smoly)

PERIODICAL: Koks i Khimiya, 1958, Nr 11, pp 47-51 (USSR)

ABSTRACT: After a short outline of the two column tar distillation plant on the Chelyabinsk Works, designed by Giprokok (Fig 1), changes introduced in the distillation practice and resulting improvements in the yields and qualities of the individual fractions are described. The designed throughput of 14 tons/hr was increased to 19-20 tons/hr. Analyses of the individual fractions and their yields are shown in Table 1 and Fig 2; material balance of the distillation and the distribution of naphthalene and phenols between the individual fractions in Table 2.

Card 1/1 There are 2 tables, 2 figures and 1 reference (Soviet).

ASSOCIATION: Chelyabinskij metallurgicheskiy zavod (The Chelyabinsk Metallurgical Works), and VUKhin

ZELENETSKIY, A.G.

AFONIN, K.B.; BURTSEV, K.I.; BYSTROV, S.N.; VINETS, G.B.; VODNEV, G.G.; VORONIN,
A.S.; GEVLICH, A.S.; GRYAZNOV, N.S.; GUDIM, A.F.; GUSYATINSKIY, M.A.;
DVORIN, S.S.; DIDIKHO, V.Ye.; DMITRIYEV, M.M.; DONDE, M.M.; DOROGOBID,
G.M.; ZHDANOV, G.I.; ZAGORUL'KO, A.I.; ZELENETSKIY, A.G.; IVASHCHENKO,
Ya.N.; KAPTAN, S.I.; KVASHA, A.S.; KIRSYEV, A.D.; KLISHEVSKIY, G.S.;
KOZYREV, V.P.; KOLOBOV, V.N.; LGALOV, K.I.; IMYTAS, V.A.; LERNER, B.Z.;
LOBODA, N.S.; LUBINETS, I.A.; MANDRYKIN, I.I.; MUSTAFIN, F.A.; NEMIROVSKIY,
N.Kh.; NEFEDOV, V.A.; OBUKHOVSKIY, Ya.M.; PERTSEV, M.A.; PETROV, I.D.;
PODOROZHANSKIY, M.O.; POPOV, A.P.; RAK, A.I.; REVYAKIN, A.A.; ROZHKOV,
A.P.; ROZENGAUZ, D.A.; SAZONOV, S.A.; SIGALOV, M.B.; STOMAKHIN, Ya.B.;
TARASOV, S.A.; FILIPPOV, B.S.; FRIDMAN, N.K.; FRISHBERG, V.D.; KHAR'KOV-
SKIY, K.V.; KHOLOPTSEV, V.P.; TSAREV, M.N.; TSOGLIN, M.E.; CHERNYY, I.I.
CHERTOK, V.T.; SHELKOV, A.K.

Samuil Berisovich Bamme. Keks i khim. no. 6:64 '56.
(Bamme, Samuil Berisovich, 1910-1956)

(MLRA 9:10)

PETROV, Aleksandr Vasil'yevich; ZELENETSKAYA, L.V., red.; SAYTANIDI,
L.D., tekhn. red.

[Manual on the complex mechanization of the cultivation and
harvesting of sugar beets] Spravochnik po kompleksnoi mekhanizatsii
vozdelyvaniia i uborki sakharinoi svekly. Moskva, Izd-vo
M-va sel'.khoz.RSFSR, 1961. 131 p. (MIRA 15:7)
(Sugar beets) (Agricultural machinery)

DEGTYAREV, Viktor Andreyevich; DRONOV, Natal'ya Fedorovna;
ZHOTKEVICH, Tat'yana Sergeyevna; ZELINETS KAYA, L.V., red.;
SAYTANIDI, L.D., tekhn. red.

[Using multiple purpose hydraulic systems with separate units
and mounted devices] Kak pol'zovat'sia universal'nymi razdel'no-
aggregatnymi gidravlicheskimi sistemami i navesnymi ustroistvami.
Moskva, Izd-vo M-va sel'.khoz. RSFSR, 1961. 142 p.

(MIRA 15:4)

(Oil hydraulic machinery)
(Agricultural. machinery)

ROSLYAKOV, Vsevolod Nikolsyevich; ZELENETSKAYA, L.V., red.;
SHESHNEVA, E.A., tekhn. red.

[Over-all mechanization of corn growing and harvesting]
Kompleksnaya mekhanizatsiya vozdelyaniia i uborki kukuruzy.
Moskva, Izd-vo M-va sel'.khoz.RSFSR, 1962. 61 p.

(MIRA 15:11)

(Corn (Maize)) (Agricultural machinery)

SHIPCHINSKIY, Andrey Valerianovich, prof., doktor geogr. nauk; ZELENETSKAYA,
L.V., red.; LEVINA, L.G., tekhn. red.

[What an agricultural worker should know about weather and climate]
Chto sleduet znat' o pogode i klimate rabotniku sel'skogo khoziaistva.
Moskva, Izd-vo M-va sel'.khoz. RSFSR, 1960. 87 p. (MIRA 14:7)
(Meteorology, Agricultural)

BLINKOVA, M.V., kand. sel'khoz. nauk; ADEL'FINSKAYA, Ye.N., red.;
ZELENETSKAYA, L.V., red.; FEDOROVA, Yu.A., red.; LEVINA, L.G.,
tekhn. red.; SAYTANIDI, L.D., tekhn. red.

[Corn in the fields of the Russian Federation] Kukuruz na poliakh
Rossiiskoi Federatsii. Moskva, Izd-vo M-va sel'khoz. RSFSR, 1961.
381 p. (MIRA 15:1)

(Corn (Maize))

PYATETSKIY, Boris Grigor'yevich; ZELENETSKAYA, L.V., red.; LEVINA, L.G., tekhn.
red.

[Mammal for lathe operators in repair shops] Spravochnik tokaria re-
montnoi masterskoi. Moskva, Izd-vo M-va sel'.khoz. RSFSR, 1961.
218 p. (MIRA 1417)

(Turning)

ZELENER, V.S.; BABLOYANTS, K.A.

Practice of working with the DD3 differential range finder.
Geod. i kart. no.11:38-40 N '62. (MIRA-15:12)
(Range finders)

ZELENETSKAYA, A.A.; NIKITINA, N.N.

Separation of α -chlorocarboxylic acids by paper chromatography and
their quantitative analysis. Zhur.anal.khim. 17 no.8:1009-1014
N '62. (MIRA 15:12)

All-Union Scientific-Research Institute of Synthetic and Natural
Perfumes, Moscow.

(Acids, Organic) (Paper chromatography)

CHERNYSHEV, Ye.A.; TOLSTIKOVA, N.G.; IVASHENKO, A.A.; ZELENETSKAYA, A.A.,
LEYTES, L.A.

Nature of the pentamethyldisilyl group in organosilicon compounds.
AN SSSR. Otd.khim. nauk no.4:667, 666 Ap '63. (MIRA 16:3)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Silyl group) (Silicon organic compounds)

ZELENETSKAYA, I.S., kand.tekhn.nauk; NARSKIKH, I.I., kand.tekhn.nauk;
NASYROV, R.A., kand.tekhn.nauk; ROMANOVA, L.A., inzh.

Damage to the pistons and crankshaft bearings of the 2D100 diesel
locomotives during operation when using various lubricating oils.
Trudy TSNII MPS no.262:5-20 '63. (MIRA 16:10)

S/065/63/000/004/003/004
A057/A126

AUTHORS: Zelenetskaya, I.S., Sarychev, Ye.I.

TITLE: Effect of the concentration of the PMS-200A (PMO-200A) antifoam admixture to M12B (M12V) oil on the operation of the lubrication system in the 2Д100 (2D100) diesel

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no. 4, 1963, 62 - 63

TEXT: Considerable foaming of the M12V lubrication oil with 8% ВНИИ НП-360 (VNII NP-360) admixture was observed during the operation of the 2D100 diesel engine. The new project of technical standards specifies for the M12V oil a 0.005% content of the antifoam admixture PMS-200A. In the present investigation there is determined the optimum concentration of this admixture and its effect on the operation of the 2D100 diesel under test stand conditions. The admixture was diluted in the lubricant heated to 60°C and added into the gear box of the running engine. First was added 0.0015%, then 0.003%, and finally 0.005% of antifoaming admixture. It was controlled: the oil consumed by the engine, by the upper piston, by the lower piston, the pressure of the oil at the exit of the

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S/065/63/000/004/003/004
A057/A126

Effect of the concentration of the

oil pump and at the entrance into the engine, at the beginning of the lower oil collector and the end of the upper oil collector. The values obtained demonstrate that the 0.001% admixture effects a considerable increase of discharge of the oil pump and rise in pressure in the whole oil system, as well as an increase of the oil quantity consumed for cooling the pistons. The increase to 0.003% admixture effected a further increase of the mentioned parameters, but in a much smaller amount. Even less was the effect of the next rise to 0.005% in admixture added. Hence, the addition of 0.003% of the antifoaming admixture PMS-200A to the oil M12V is sufficient to secure the normal work of the lubrication system of the 2D100 diesel engine. There is 1 figure.

ASSOCIATION: TsNII MPS

Card 2/2

LADONIN, Vadim Feopentovich, kand. sel'khoz. nauk; VOYTOV, Pavel Ivanovich, kand.sel'khoz.nauk; ZELENETSKAYA, L.V., red.; LEVINA, L.G., tekhn. red.

[Herbicides and the mechanization of their use; text book for agrochemical compulsory education] Gerbitsidy i mekhani-zatsiia ikh vneseniia; posobie dlia agrokhimicheskogo vse-obucha. Moskva, Rossel'khozizdat, 1964. 124 p.

(MIRA 17:3)

KAREV, F.I.; ZELENETSKAYA, L.V., red.; SAYTANIDI, L.D., tekhn. red.

[Small-scale mechanization in the orchard] Maia mekhanizatsiia
v sadu. Moskva, Izd-vo M-va sel'.khoz. RSFSR, 1960. 38 p.
(MIRA 14:9)

(Fruit culture—Equipment and supplies)

VORONOV, Petr Osipovich; ZELENETSKAYA, L.V., red.; SAYTANIDI, L.D., tekhn.
red.

[The URB-VP diamond boring machine] Almazno-rastochnoi stanok URB-
VP. Moskva, Izd-vo M-va sel'.khoz. RSFSR, 1961. 79 p.

(MIRA 14:8)

(Drilling and boring machinery)

ZELENETSKAYA, L.V., red.; SAYTANIDI, L.D., tekhn. red.

[Leading agricultural workers talk about their experience;
materials of the Conference of Leading Agricultural Workers of the
non-Chernozem Zone, Moscow, 1961] Perekopki sel'skogo khoziaistva
o svoem opyte; materialy Soveshchaniia perekopikov sel'skogo kho-
ziaistva Nechernozemnoy zony v g. Moskve, 1961. (MIRA 14:7)

1. Soveshchaniye perekopikov sel'skogo khozyaystva Nechernozemnoy
zony. Moscow, 1961.

(Agriculture)

LITINSKIY, Semen Aleksandrovich, inzh.; ZELENETSKAYA, L.V., red.;
SAYTAHIDI, L.D., tekhn.red.

[First experience in and possibilities for the automatic
control of tractor-drawn machinery] Pervyi optyt i perspektivy
avtomatizatsii vozhdeniia traktornykh agregatov. Moskva,
Izd-vo M-va sel'.khoz.RSFSR, 1960. 42 p.

(MIRA 14:4)

(Automatic control) (Tractors)
(Agricultural machinery)

SLAVIN, Radiy Mikhaylovich; GANELIN, Aleksandr Moiseyevich; ZELENETSKAYA,
L.V., red.; SAYTANIDI, L.D., tekhn.red.

[Automatic water supply on livestock farms] Avtomatizatsiya
vodosnabzheniya zhivotnovodcheskikh ferm. Moskva, Izd-vo M-va
sel'.khoz.RSFSR, 1961. 95 p. (MIRA 14:4)
(Cattle--Watering) (Pumping machinery)

DEMIN, I.G.; BLAGOV, A.T.; ZHAGLEY, F.F.; ZELENETSKAYA, L.V., red.;
SAYTANIDI, L.D., tekhn.red.

[Collection of suggestions for efficiency improvements]
Sbornik ratsionalizatorskikh predlozhenii. Moskva, Izd-vo
M-va sel's. khoz. RSFSR, 1960. 42 p. (MIRA 14:1)
(Agricultural machinery)

BODIN, Aleksandr Platonovich; ROGACHEV, Il'ya Fedorovich; KHAVICH, Yefim Abramovich; ZELENETSKAYA, L.V., red.; SAYTANIDI, L.D., tekhn. red.

[Organization of the installation of electric equipment in rural electric power systems] Organizatsiya elektrmontazhnykh rabot na sel'skikh elektrostanovkakh; spravochnoe rukovodstvo. Moskva, Izd-vo M-va sel'.khoz.RSFSR, 1961. 210 p. (MIRA 14:12)

(Rural electrification)
(Electric power distribution—Equipment and supplies)

ZELENETSKAYA, Sof'ya Sergeyevna; CHRAKOVA, Tat'yana Porfir'yevna; POTAPOVA, I.N., red.; BASHMAKOV, G.M., tekhn. red.

[Rheumatic fever in children and its control] Revmatizm u detei i bor'ba s nim. Moskva, Medgiz, 1962. 13 p. (MIRA 16:2)
(RHEUMATIC FEVER)

SHUL'MAN, A.R.; KAPITSA, M.L.; NEMCHENOK, R.L.; ZELENETSKAYA, Ye.V.

Photoelectron emission in the systems W - BaO and W - Ba. Fiz.
tver. tala 2 no.11:2805-2812 N '60. (MIRA 13:12)

1. Politekhnicheskiy institut imeni M.I. Kalinina, kafedra
elektroniki, Leningrad.
(Photoelectricity)

86435

9,4160 (3201,1003,1137)

S/181/60/002/011/021/042
B006/B056

AUTHORS: Shul'man, A. R., Kapitsa, M. L., Nemchenok, R. L., and
Zelenetskaya, Ye. V.

TITLE: Photoelectric Emission of the Systems W-BaO and W-Ba

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 11, pp. 2805-2812

TEXT: The authors' aim was a comprehensive investigation of the photoelectric properties of the W-BaO and W-Ba systems, a comparison of the properties of these two systems, and a study of the nature of the photoeffect of these systems. First of all, the measuring method is described, Fig. 1 gives a schematic representation of the device working in plane geometry. Figs. 2 and 3 show typical spectral characteristics of W-BaO systems. On the whole it could be observed that the quantum yield increases monotonically with the layer thickness. In the series of measurements illustrated in Fig. 3, however, this was not the case, which may be explained by the somewhat less favorable vacuum conditions. The work function of the tungsten backing ($10 - 25\mu$) measured by the Fowler method was found to be 4.3 - 4.4 ev, whereas the Richardson method yielded a value of 4.5 - 4.6 ev. The yield curves were evaluated according to Fowler, and the

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Photoelectric Emission of the Systems W-BaO
and W-Ba

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result (Fig. 4) is discussed. The spectral characteristics of the photo-emission of the W-Ba system take a similar course as those of W-BaO. It is, however, partly smoother and without any noticeable connection between quantum yield and layer thickness. Figs. 5 and 6 show the characteristics; those shown in Fig. 6 were recorded at a much lower rate of sputtering. Fig. 7 shows the Fowler curves which take a similar course as those of the W-BaO system. Summing up: 1) An investigation was carried out of the change in the work function (Fig. 8 shows the work function as a function of the sputtering time on a cold backing) and of the quantum yield for a thickness from 0 to 3 - 10 monomolecular layers (Figs. 2-6). 2) The spectral characteristics of the photoeffect of W-Ba are largely monotonic up to a thickness of about 10 monomolecular layers, except for a thickness of about one layer, where the characteristic takes an anomalous course. 3) The spectral characteristics of the system W-BaO showed no peculiarities for a thickness of less than one monomolecular layer, and in photoemission the photoelectrons of the metal with reduced work function play the main part. 4) For BaO coatings on a W-base with a thickness of more than one monomolecular layer, the quantum yield curves show peculiarities which cannot be ascribed neither to the properties of the W-backing nor to BaO. Thus, BaO coatings of a thickness of one or several molecules

Card 2/5

Photoelectric Emission of the Systems W-BaO and W-Ba S/181/60/002/011/021/042
B006/B056

not only cause a decrease of the work function of the metal, but also change the emission mechanism. Yu. S. Vedula and V. M. Gavrilyuk are mentioned. There are 8 figures and 9 references: 5 Soviet, 2 US, 1 Japanese, and 1 German.

ASSOCIATION: Politekhnicheskiy institut im. M. I. Kalinina Kafedra elektroniki Leningrad (Polytechnic Institute imeni M. I. Kalinin, Chair of Electronics, Leningrad)

SUBMITTED: July 1, 1960

Legend to Figs. 2, 5: The numbers of the curves denote the sputtering time. The higher the number, the longer the duration.

Legend to Fig. 8: 1) Source - barium beryllate, $5 \cdot 10^{-8}$ mm Hg; 2) the same source, $5 \cdot 10^{-9}$ mm Hg; 3) and 4) "Bati" source, $5 \cdot 10^{-9}$ mm Hg.

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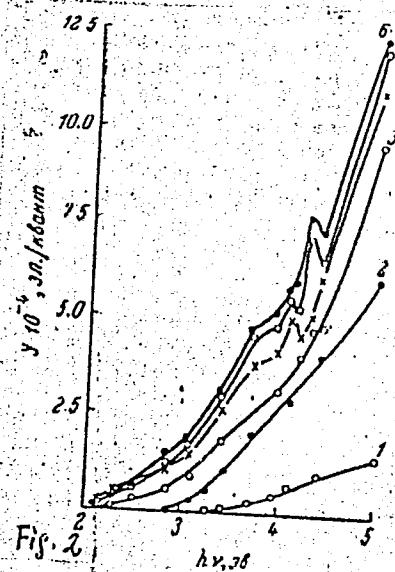


Fig. 2
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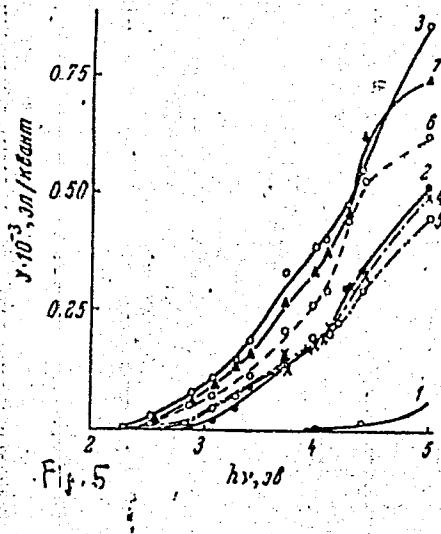
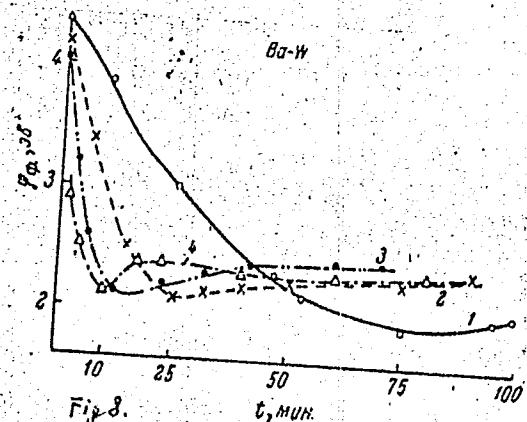
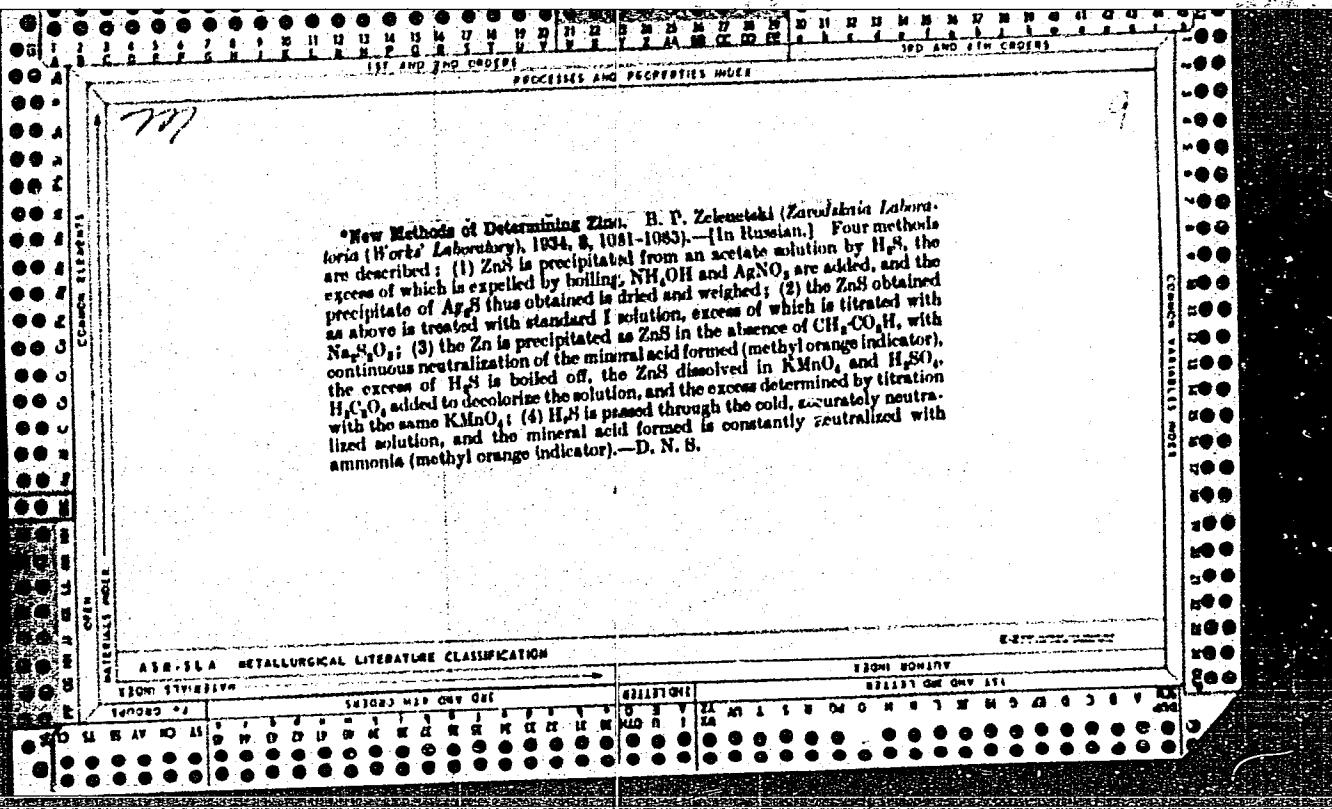


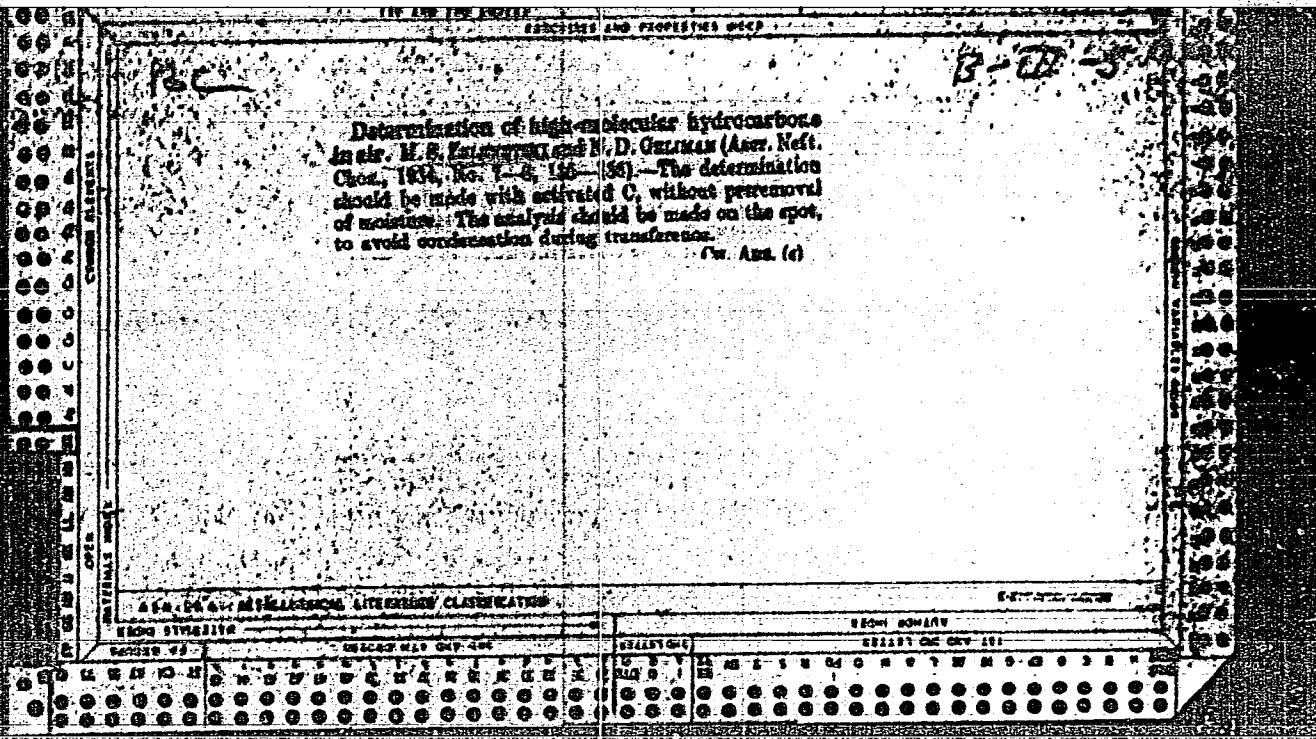
Fig. 5

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The properties of saddle oil soaps used in the preparation
of emulsifiable oils. A. G. Zelenetskii. Neftegazovye Khozyaistva,
1930, No. 4-5, 60-2. --A critical review of the standards used
in Russia for sol. oils used in various branches of the industry.
The content of petroleum acids with a high acid
no. should be reduced, the industry should be supplied
with petroleum soaps originating from machine- and spindle-
oil distillates with the addn. of some soaps from kerosene
and gas oil.

AT&T METALLURGICAL LITERATURE CLASSIFICATION

10001 SIC 311314

10003 M17 QWQ QSF

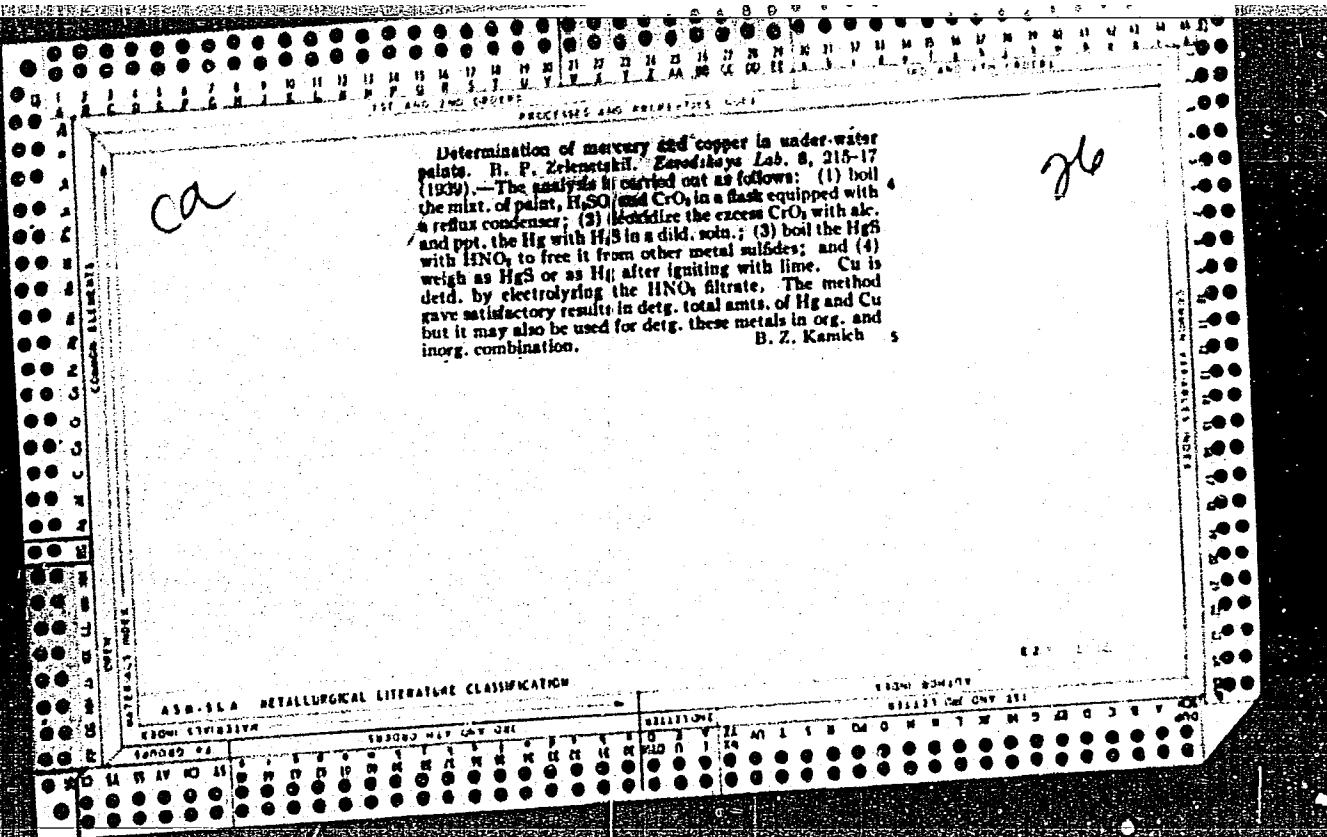
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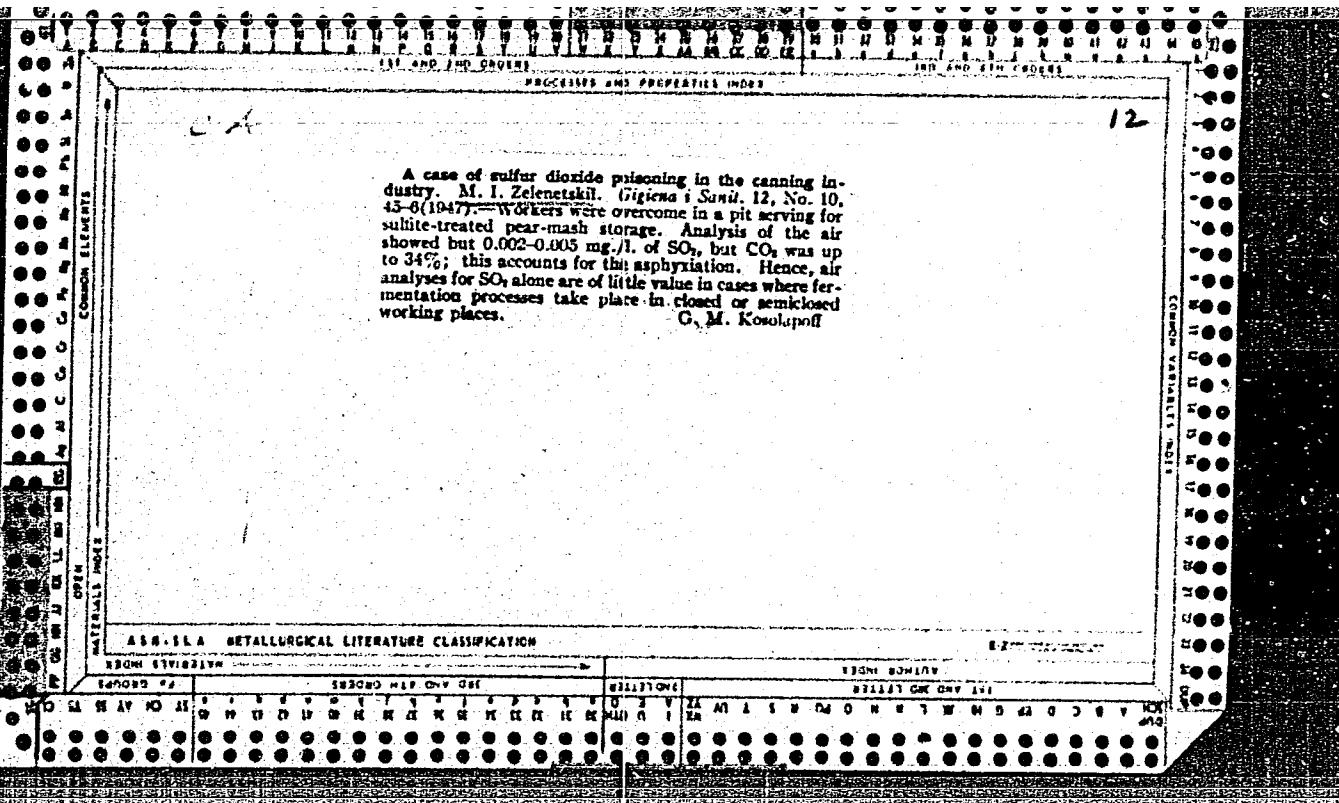
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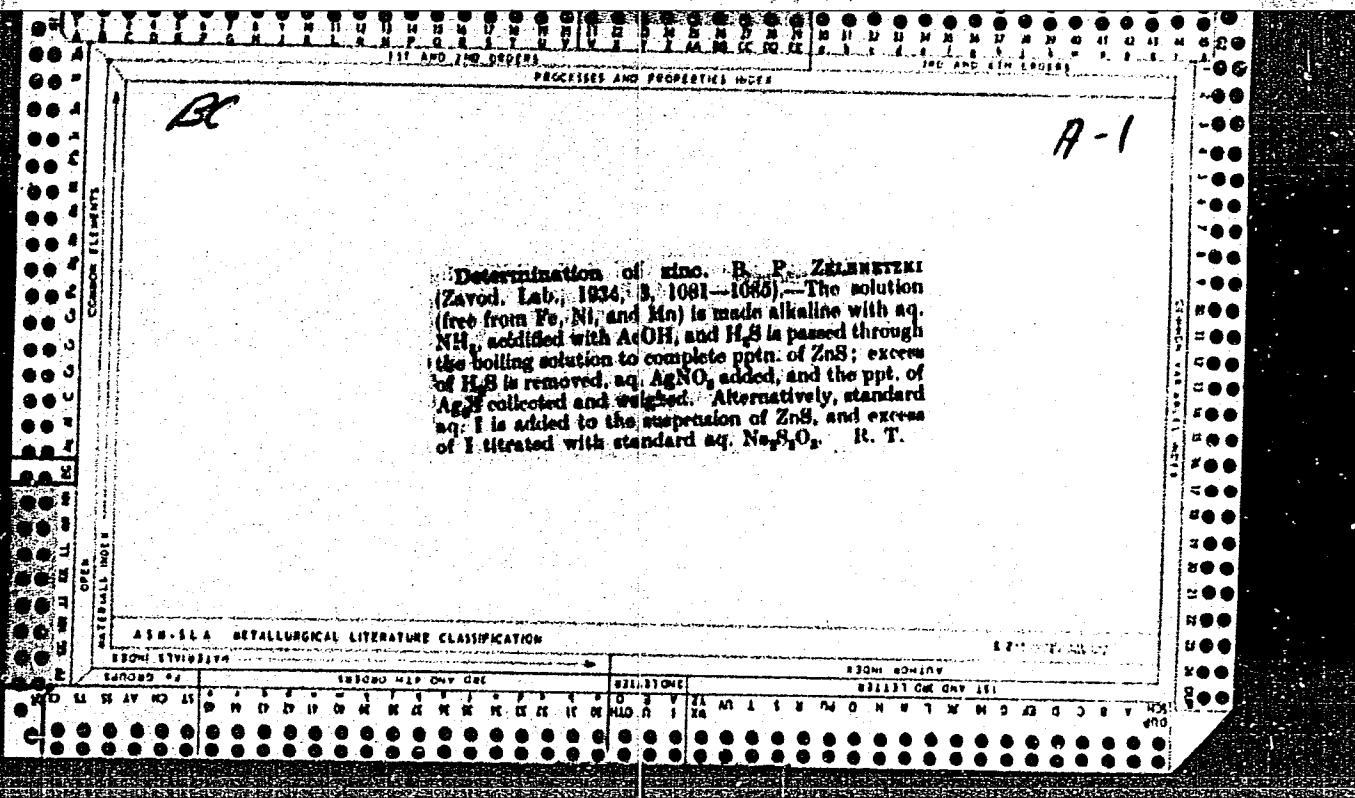
Method for the analysis of the active substances of storage batteries...B. L. Zelenskiy...Zvezdatza...Lab. 10, Akad. Nauk SSSR (1941); Chem. Ztbl., 1943, 1, 2124. - The essential operation is the sepn. of the $PbSO_4$ from the substances to be dealt, by conversion to $PbCO_3$ and soln. in HNO_3 . To 100-300 g. of sample is added 80 ml. HNO_3 (sp. gr. 1.4) and 120 ml. H_2O . The melt. is heated until NO_2 fumes cease being evolved and the residue is white, H_2CO_3 is added to dissolve $PbCO_3$. The residue is filtered, washed with hot H_2O , transferred to a flask with $(NH_4)_2CO_3$ soln. (30 g. in 90 ml. H_2O) and heated at 40-50° for 2 hrs. The ppt. is filtered, washed with 10% $(NH_4)_2CO_3$ soln., and treated with 1:3 HNO_3 . The residue is filtered on the same filter, washed, and again treated with HNO_3 . This is repeated until the insol. residue amounts to 1 g. Analysis of the HNO_3 soln.: $PbSO_4$ is pptd. by the addn. of 30 ml. of 1:1 H_2SO_4 , washed, and the ppt. discarded. The filtrate is evapd. to SO_2 fumes, tartaric acid added after cooling, and again heated to boiling. The ppt. is discarded and the filtrate A_1 retained. Analysis of the $(NH_4)_2CO_3$ soln.: Na_2S soln. is added dropwise until a permanent ppt. forms. After standing for 4 hrs. the ppt. is filtered and washed with hot 5% NH_4NO_3 soln. Ppt. a_1 is retained. H_2S is passed into the acidified filtrate, the ppt. (b_1) washed with 1% HCl or AcOH and, with H_2S . The filtrate is discarded. Analysis of the insol. residue: The residue is decompd. with 6 times its wt. of Na_2CO_3 , extd. with hot H_2O , filtered, and washed with 10% Na_2CO_3 soln. Any residue is dissolved in tartaric acid soln. with addn. of a little HNO_3 . $PbSO_4$ is pptd. by addn. of 2 ml. H_2SO_4 and discarded, filtrate A_2 being retained. The alk. filtrate is treated as described above, ppts. a_1 and b_1 being retained and the filtrate discarded. Sepn. of the metals into groups: Ppts. a_1 and a_2 are dissolved in boiling dil. HNO_3 , $PbSO_4$ pptd. with 2 ml. H_2SO_4 , and the filtrate added to filtrates A_1 and A_2 . Ag is pptd. from the combined filtrates if necessary, and H_2S passed into the resulting filtrate. The filtrate contains Fe, Zn and Ni is analyzed in the usual manner. The ppt. is treated with 10% Na_2S soln. and filtered; the ppt. con-

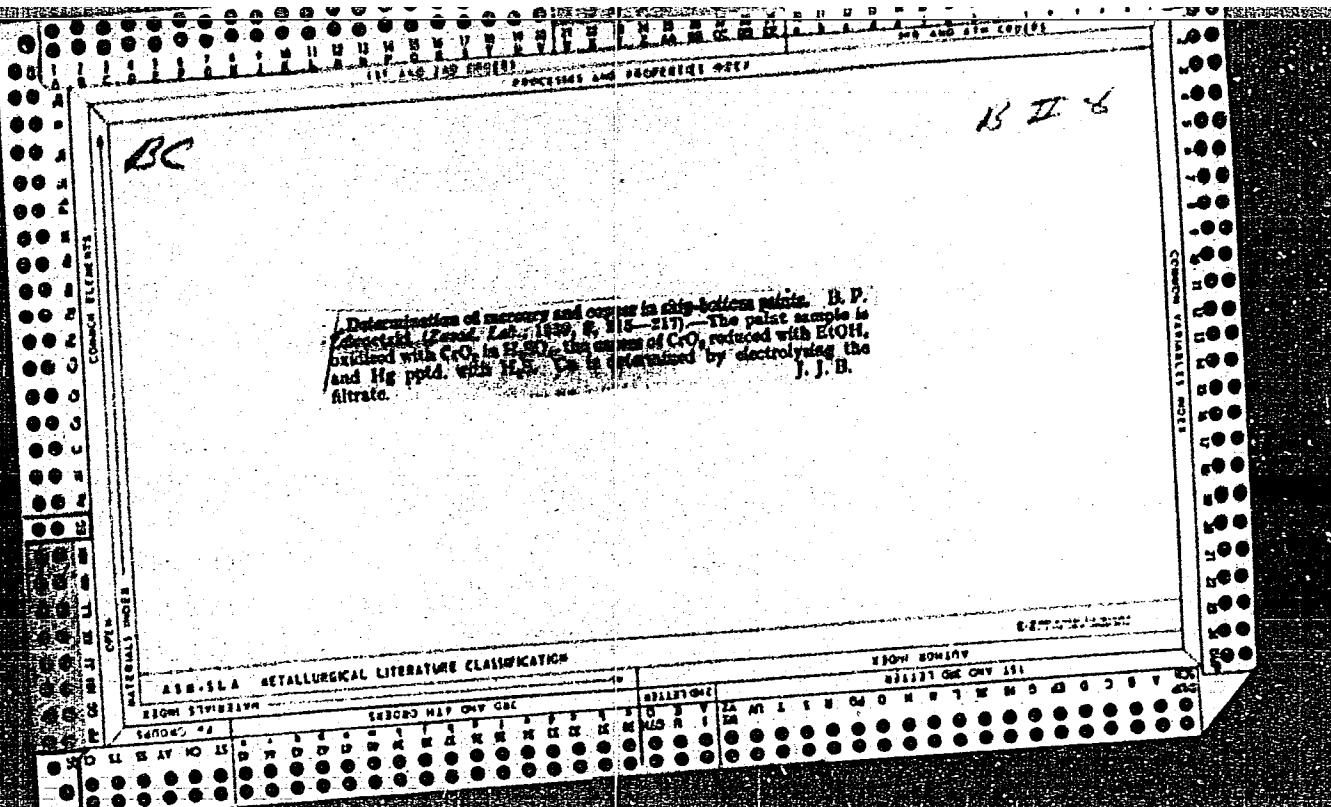
tains Cu, Bi and Cd and is analyzed after soln. in HNO_3 ; the filtrate can contain metals of other groups and is acidified with HCl, treated with H_2S and filtered. This ppt. is collected on the same filter as ppts. b_1 and b_2 . The combined ppts. are treated with HCl and $KClO_3$. After addn. of a little H_2O the soln. is filtered. Sn, Sb and As are in the filtrate. Ba will be in the $PbSO_4$ ppts.

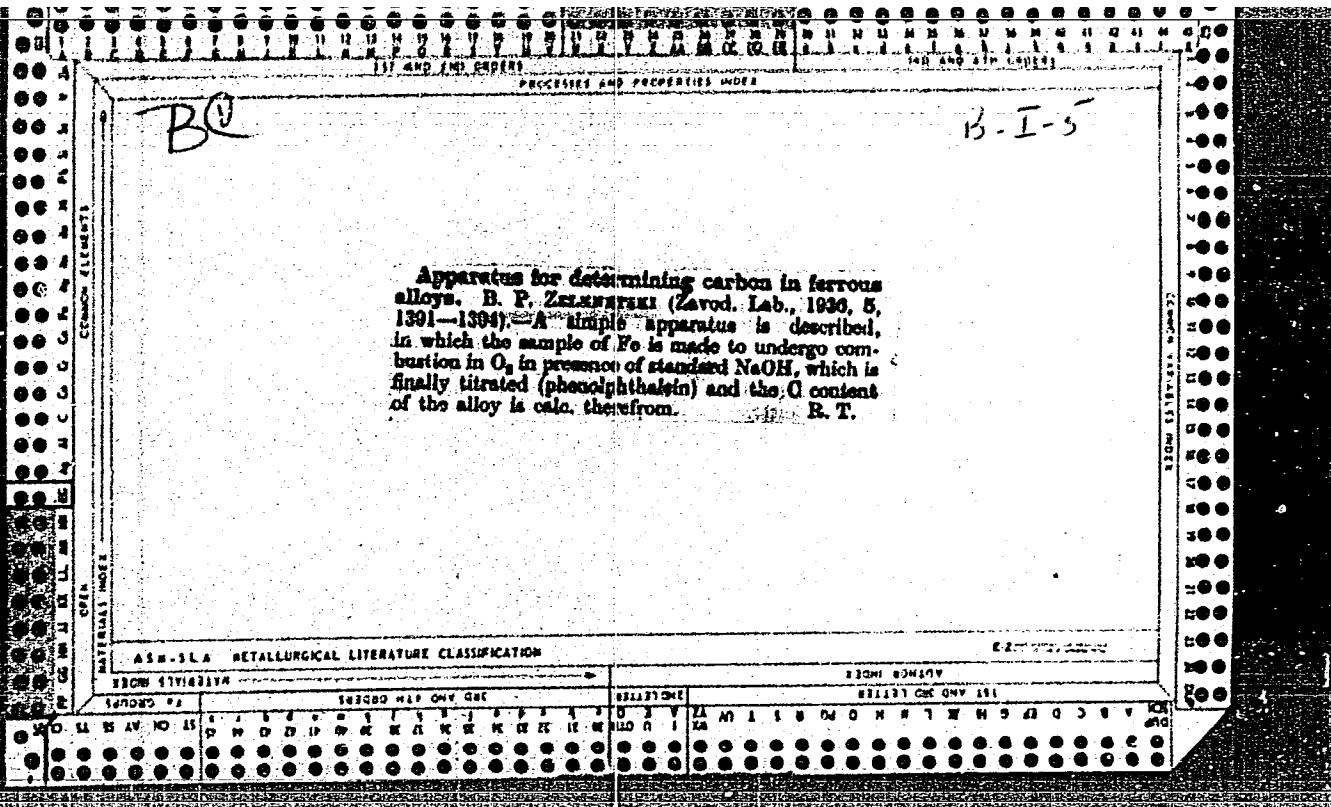
H. E. Wirth











CP

New methods for the determination of zinc. B. P. Zelenetskii. Zavodskaya Lab. 3, 103-50044. Three methods are described: (1) Ppt. ZnS in dil. $AcOH$ soln., boil off excess H_2S and titrate with $AgNO_3$ at 80° C . Filter off the Ag_2S , dry at 110° C and weigh. (2) Ppt. ZnS in a neutralized soln., and after removing excess H_2S heat with a measured vol. of standard $KMnO_4$ soln., add H_2SO_4 , dissolve the MnO_2 ppt. by adding a measured vol. of standard oxalic acid and titrate the excess with $KMnO_4$. (3) Neutralize the soln. with methyl orange as indicator and measure the vol. of 0.2 M NH_3 required to neutralize the acid formed by the reaction $Zn^{2+} + H_2S \rightarrow ZnS + 2H^+$

Chas. Blane

CA

7

Determination of the contents of high-molecular hydrocarbons in air. M. S. Zelenetzkit and N. D. Gel'man. Verbalizatsiya "Neftegaz" Akademiko 1934, No. 7 N, 135 d. - The detn. should be carried out with activated C without a preliminary removal of moisture, as otherwise an error amounting to 60% may result. For air from warm places, such as are found near stiles, etc., the analysis should be made on the spot, because of the possibility of condensation during the transfer to the lab. A. A. B.

ASIN-1A METALLURGICAL LITERATURE CLASSIFICATION

L 15772-66 ENT(m)/EIP(j)/T/ETC(m)-6 WW/RM

ACC NR: AP6005522

SOURCE CODE: UR/0080/66/039/001/0234/0237

AUTHOR: Zhivukhin, S. M.; Kireyev, V. V.; Zelenatskiy, A. N.

68

B

ORG: none

TITLE: The reaction of phosphonitrile chloride trimer with dihydric phenols

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 1, 1966, 234-237

TOPIC TAGS: polymer, thermal stability, fire resistance 4455

ABSTRACT: Polymers derived from phosphonitrile chlorides and dihydric phenols have high thermal stability, fire resistance, and other desirable properties. The purpose of this work was to investigate the reaction between phosphonitrile chloride trimer and 2,2-bis-(*p*-hydroxyphenyl)propane, resorcinol and hydroquinone. It was found that phosphonitrile chloride trimer does not react with dihydric phenols below 180°C, either in the melt or in organic solvents. The reaction, accompanied by liberation of HCl, takes place at 200°C, or above, in nitrobenzene or ditolylmethane, or at lower temperatures in some organic solvents in the presence of quinoline or pyridine. The effect of the duration of the reaction, and of the ratio and concentration of starting materials on the composition of

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UDC: 547.56+541.6

L 15772-66

ACC NR: AP6005522

the product is shown. Some conclusions concerning the structure of the product
are drawn from elemental and functional-group analyses, molecular weights, and
infrared spectra. Orig. art. has: 4 figures and 1 table. [vs]

SUB CODE: 11,07 SUBM DATE: 01Jul63/ ORIG REF: 001/ OTH REF: 006
ATD PRESS: 4200

Card 2/2 M/S

ANASTASIYEV, Petr Ivanovich; ZELENETSKIY, Mikhail Mikhaylovich;
FROLOV, Yury Aleksandrovich; KRASOVSKIY, K.F., red.; BUL'DYAYEV,
N.A., tekhn. red.

[Overhead electric power distribution lines of industrial enter-
prises] Vozdushnye linii elektroperedachi promyshlennyykh pred-
priatii. Moskva, Gosenergoizdat, 1962. 279 p. (MIRA 15:12)
(Electric power distribution) (Electric lines--Overhead)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0

FRUMKINA, N.S.; ZELEMETSKIY, N.N.; VOYTKEVICH, S.A.; GEL'PERIN, N.I.

Separation of macrocyclic lactones by the vacuum-rectification
method. Zhur. VKEO 5 no. 5:595-596 '60. (MIRA 13:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut dushistykh
veschchestv.
(Lactones)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0"

ZELENTSKIY, N.N.; GEL'PERIN, N.I.

Investigating the process of fractional distillation at reduced pressures. Report No.4: Effect of the working pressure and vapor velocity(mixture of ethylbenzene-chlorobenzene) on the effectiveness and hydraulic resistance of the wetted-wall column. Trudy VNIISNDV no.4:144-151 '58. (MIRA 12:5)
(Distillation, Fractional)

GEL'PERIN, N.I.; ZELENETSKIY, N.N.

Regularities of the process of mass transfer during vacuum
rectification in packed columns. Zhur. prikl. khim. 36
no.11:2445-2456 N '63. (MIRA 17:1)

ZELENETSKY N.N.

GEL'PERIN, H.I.; KROKHIN, N.G.; *ZELENETSKY, N.N.*

Studying the process of rectification at lowered pressures.
Report No. 1: Relation between the efficient operation of a
bubble cap fractionating column and vapor speed. Trudy VNIISNDV
no.2:119-127 '54. (MIRA 10:7)
(Plate towers) (Vapor pressure) (Distillation, Fractional)

ZELENETSKIY, N.N., Inzh.; KASHNIKOV, V.V., Inzh.; VOYTKOVICH, S.A., kand.
tekhn.nauk; GEL'PERIN, N.I., doktor tekhn.nauk

Continuous fractional vacuum distillation of coriander oil.
Masl.-zhir.prom. 25 no.5:29-33 '59. (MIRA 12:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i
natural'nykh dushistykh veshchestv (for Zelenetskiy, Kashnikov, Voit-
kevich). 2. Moskovskiy institut tonkoy khimicheskoy tekhnologii im.
M.V. Lomonosova (for Gel'perin).
(Coriander) (Distillation, Fractional)

ZELENETSKIY, N. N.; GEL'PERIN, N. I.

Investigating the process of fractional distillation at reduced pressures. Report No.3: Effect of working pressure and vapor velocity of (mixture of ethylbenzene-chlorobenzene) on the effectiveness and hydraulic resistance of the packing column. Trudy VNIISNDV no.4:138-144 '58. (MIRA 12:5)
(Distillation, Fractional)
(Packed towers)

KROKHIN, N.G.; ZELENETSKIY, N.N.

Best distillation procedure for perfume fractions of geranium
and coriander oils. Trudy VNIISNDV no.4:181-185 '58.
(MIRA 12:5)

(Essences and essential oils)
(Distillation, Fractional)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0

FRUMKINA, N.S.; ZELENETSKIY, N.N.; VOYTKEVICH, S.A.; GEL'PERIN, N.I.

Separation of macrocyclic lactones by vacuum rectification.
Trudy VNIISNDV no.5:93-98 '61. (MIRA 14:10)
(Lactones) (Rectification)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0"

ZELENETSKIY, N.N.; ZEMLYANUKHINA, M.P.

Rectification of guaiacol, obtained by methylation of mixtures
containing pyrocatechin. Trudy VNIISNDV no.5:98-102 '61.
(MIRA 14:10)

(Guaiacol) (Methylation), (Pyrocatechol)

KISELEVA, Ye.N.; GEL'PERIN, N.I.; SHESTAKOVA, V.A.; ZELENETSKIY, N.H.

Use of extraction by pairs of solvents for the purification of
phenyl ethyl alcohol. VNIISNDV no.5:102-107 '61. (MIRA 14:10)
(Phenethyl alcohol) (Extraction (Chemistry))

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0

FRUMKINA, N.S.; ZELENETSKIY, N.N.

Separation of dl-menthol from a mixture of racemic isomeric menthols
by vacuum rectification. Trudy VNIISNDV no.6;146-150 '63.
(MIRA 17:4)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0"

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0

ZELENETSKIY, N.N.; ZEMLYANUKHINA, M.P.

Checking the performance of industrial packed vacuum-rectification
apparatus. Trudy VNIISNDV no.6:14.1-14.6 '63. (MIRA 17:4)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0"

GEL'PERIN, N.I., prof.; ZELENETSKIY, N.N.

Vacuum rectification in the production of odorous substances. Zhur.
VKHO 5 no.4;431-437 '60. (MIRA 13;12)
(Odorous substances) (Distillation, Fractional)

DMITRIYEVSKAYA, M.V., inzh.; RAYEMSKAYA, N.P., inzh.; ZELENETSKIY, N.N., inzh.

Manufacture of palmitic acid as a fractional distillate of fatty acids from cottonseed oil. Masl.-zhir. prom. 24 no. 4:22-24 '58.
(MIRA 11:5)

1. Moskovskiy zavod "Steol" (for Dmitriyevskaya, Rayemskaya).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh i natural'nykh dushistykh veshchestv (for Zelenetskiy).
(Palmitic acid) (Cottonseed oil)

KROKHIN, N.G.; ZELEMETSKIY, N.N.

Recovery of linaloöl from coriander oil and linalylacetate
from clary sage oil by vacuum distillation. Trudy VNIISNDV
no.4:185-189 '58.
(Essences and essential oils)
(Distillation, Fractional)
(Linaloöl)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0

KROKHIN, N.G.; ZELENETSKIY, N.N.

Efficient distillation of methyl ether of tert-butyl-m-cresol.
Trudy VNIISEDV no.2:139-141 '54. (MIRA 10:7)
(Distillation) (Cresol)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0"

ZELENETSKIY, N.N.

GEL'PERIN, N.I., professor; ZELENETSKIY, N.N.

Effect of working pressure on the efficiency of a packed fractionating column. Khim.nauka i prom.2 no.1:91-96 '57.

(MLRA 10:4)

(Distillation apparatus)

ZELENETSKIY, N. N., Cand. Tech. Sci. (diss) "Investigation of Process of Vacuum-Rectification and its Application in Manufacture of Aromatic Substances," Moscow, 1961, 22 pp. (Moscow Inst. of Precise Chem. Technol.) (KL Supp 12-61, 267).

ZELENETSKIY, P.K., polkovnik meditsinskoy sluzhby; SHLEYFER, Z.L.,
podpolkovnik meditsinskoy sluzhby; RYZHKOV, V.V., mayor
meditsinskoy sluzhby

Organization of oxygen therapy in a garrison hospital and the use
of oxygen apparatus under field conditions. Voen.med. zhur.
(MIRA 15:6)
no.11:77-78 N '61.

(OXYGEN-THERAPEUTIC USE)

ZHITOMIRSKY, P. V. Colonel of the Medical Service--Organization of Oxygen Theraphy
in a Garrison Hospital and the Application of the Oxygen Apparatus under Field
Conditions. SHLEYFER, Z.L. and RYZHKOV, V.V.

Voyanno-Meditsinsky Ahurnal, No. 11, 1961, pp. 70-79.

NESTEROV, P.G.; CHERNOZATONSKIY, N.P.; ZELENETSKIY, V.A.

Production of mining and ore dressing enterprises of the
Ukraine during five years of the current seven year plan.
Met. i gornorud. prom. no.3:48-50 My-Je '64.

(MIRA 17:10)

ZELENETSKIY, V.Ye. [Zelenets'kyi, V.IE.]; GROMOVA, I.S. [Hromova, I.S.]

Rare case of lymphogranulomatosis of the heart in an
eight-year-old child. Ped. Akush. i gin. 24 no.6:30-31
'62. (MIRA 17:4)

1. Kafedra podiatrii vrachebnogo i sanitarno-gigiyenicheskogo
fakul'tetov (zaveduyushchiy - prof. R.Yu. Kol'ner) Kiyevskogo
meditsinskogo instituta (rektor - dotsent V.D. Bratus') na baze
Pervoy zheleznodorozhnoy bol'nitsy Yugo-Zapadnoy zheleznoy
dorogi (nachal'nik - Z.Z. Bokhanovich [Bokhanovych, Z.Z.]).

PICHAK, Fedor Ivanovich, kand.tekhn.nauk; ALEKSEYEV, Georgiy Petrovich,
inzh. Prinimal uchastiye BAGIN, Yu.I., inzh. ANOKHIN, V.I.,
kand.tekhn.nauk, retsenzent; ZELENIEV, A.A., kand.tekhn.nauk,
retsenzent; SROKIN, Ye.M., inzh., retsenzent; MOROZOV, A.G.,
kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.

[Adjustment of tractors and agricultural machinery] Regulirovka
traktorov i sel'skokhoziaistvennykh mashin. Moskva, Mashgiz,
416 p. (MIRA 15:5)

(Tractors—Maintenance and repair)
(Agricultural machinery—Maintenance and repair)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0

ZELENEV, A.A., kand.tekhn.nauk

Parallel transfer of the check wire by a system of pulleys.
(MIRA 15:12)
Izv.TSKHA no.4:156 '62.
(Sowing)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964220016-0"

KARPENKO, Aleksandr Nikolayevich, akademik, doktor tekhn. nauk,
prof.; ZELENEV, Aleksandr Alekseyevich, kand. tekhn.
nauk, dots.; SOLODENIKOVA, G.A., red.

[Agricultural machinery] Sel'skokhoziaistvennye mashiny.
Moskva, Kolos, 1965. 398 p. (MIRA 18:6)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk
imeni V.I.Lenina(for Karpenko). 2. Moskovskaya sel'sko-
khozyaystvennaya akademiya im. K.A.Timiryazeva (for
Zelenev, Karpenko).

ZELENEV, A. A.

"Investigation of Universal Hammer Feed-Crushers for Crushing Forage Grain."
Sub 2 Nov 51, Moscow Inst of Mechanization and Electrification of Agriculture imeni
V. M. Molotov

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

1. ZELENEV, A.A.
2. USSR (600)
4. Feed Grinders
7. Work of the screen in a hammer mill feed grinder, Eng. A.A. Zelenov, Sel'khozmashina no. 4, 1953.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

ZELENEV, A. A.

Feed Grinders

Application of higher speed in operating feed hammer mills. A. A. Zelenev.,
Sel'khozmashina, no. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, April 1952. Unclassified.

ZELENEV, I. F.

VENEREAL DISEASES

I. F. Zelenov, an outstanding clinician and organizer of the fight against venereal diseases; 90th anniversary of his birth. Shapiro, A. Ye. Vest. ven. i derm. no. 4, 1952.

Monthly List of Russian Accessions. Library of Congress. November 1952. UNCLASSIFIED

ZELENEV, Viktor Yevgen'yevich; KORNEYEV, S.G., red.; POPOV, V.N.,
tekhn. red.

[On building scaffolds]Na stroitel'nykh lesakh. Tambov,
Tambovskoe knizhnoe izd-vo, 1960. 13 p. (MIRA 16:4)
(Construction industry--Production methods)

BARTENEV, G.M., ZELENEV, Yu.V.

Relation between the frost resistance coefficient and the
maximum of mechanical losses of rubberlike polymers subjected
to repeated deformations in the region of glass transition.
Kauch.i rez. 19 no.8:18-22 Ag '60. (MIRA 13:8)

1. Nauchno-issledovatel'skiy institut resinovoy promyshlennosti.
(Rubber--Testing) (Deformations (Mechanics))

ANULOV, V.L., inzh.; ZELENEV, Yu.V., aspirant; NOVIKOVA, N.M., kand.khim.nauk

Studying the viscous and elastic properties of high polymers.
Izv.vys.ucheb.zav.; tekhn.leg.prom. no.2:154-159 '61.

(MJRA 14:5)

1. Moskovskiy Gosudarstvennyy pedagogicheskiy institut im. V.I.
Lenina i Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
(Macromolecular compounds)

32349

S/190/62/004/001/011/020
B101/B110

11.2210

AUTHORS: Bartenev, G. M., Zelenov, Yu. V.

TITLE: Dependence of deformation and mechanical losses in rubber-like polymers on temperature and frequency under periodic stress

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 1, 1962, 66 - 73

TEXT: The mechanical losses of net polymers, viz., of unfilled rubbers: natural (NR); polyisoprene CKM(SKI); methyl vinyl pyridine MBPK(MVPK); butadiene styrene CKC-30 (SKS-30); nitrile CKH-18 (SKN-18), and CKH-40 (SKN-40), and polychloroprene ПХП(PKhP) were determined between -90 and +120°C. The deformation test of cylindrical rubber specimens (height 10 mm, diameter 8 mm) was carried out by an Aleksandrov-Gayev apparatus of NIIRP at a constant stress amplitude = 1.8 kp/cm² and at frequencies of 0.1, 1, 10, 100, and 1000 cycles/min. The mechanical losses were determined from the hysteresis loop at 0.01 and 0.1 cycles/min. The sinusoidal oscillations were superimposed to a static deformation (10% of the height). X

Card 1/54

32349

S/190/62/004/001/011/020

B101/B110

Dependence of deformation ...

initial height of the specimens). Results: Temperature dependence of the deformation amplitude and two maxima of mechanical losses (Fig. 3). The low-temperature maximum of the losses was, depending on the rubber type, between 197 and 247 K. Above vitrification temperature, there were observed: (1) a high-temperature maximum of losses, (2) frequency dependence of the deformation amplitude. For the maximum loss at low temperatures, the following equation was derived: $T_{\max} = U_0/R(\ln \sqrt{E_0/E'_0} - \ln \alpha\omega)$ (7); U_0 = activation energy (for NR = 14.1, for SKN-40 rubber = 17.6 kcal/mole); E_0 = elasticity modulus (about $4 \cdot 10^4$ kp/cm²); E'_0 = initial high-elasticity modulus (depending on the rubber type, 10 - 50 kp/cm²); ω = frequency; $\alpha \approx 10^{-12}$ sec. For all rubbers, maximum losses at high temperature were in a narrow temperature range (85 - 100°C). For the maximum at high temperature, about the same value of U (25 - 26 kcal/mole) which was close to that for the energy of polysulfide bonds (27.5 kcal/mole) was calculated for all rubbers from $\tau_c = \exp(U_0/RT)$ (4) (τ_c = relaxation time). The maximum was calculated from

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S/190/62/004/001/011/020
B101/B110

Dependence of deformation ...

$T'_{\max} = U_2/R(\ln T_{E_2}/E'_2 - \ln \omega)$ (9); U_2 = activation energy for the destruction of weak cross links; $E_{\infty} = E_2 + E'_2$, where E_2 = modulus depending on the weak cross links (polysulfide links), E'_2 = equilibrium modulus of the network consisting of solid cross links only; c.-a. No maximum loss was observed in the medium temperature range. Experimental data are explained by three types of relaxation processes: (1) Orientation of links of chain molecules; (2) overcoming the secondary nodes in translocation of segments; (3) destruction of polysulfide cross links. Process (1) causes the low-temperature maximum; process (3) the high-temperature maximum. For process (2), the spectrum of relaxation times is assumed to be so wide that at medium temperatures a maximum no longer occurs. The effects observed can be explained by a mechanical model (Fig. 4). G. L. Slonimskiy is thanked for a discussion. There are 6 figures, 1 table, and 19 references: 16 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: B. P. Mason, Trans. Farad. Soc., 55, 1461, 1959; A. R. Payne, J. Appl. Phys., 28, 378, 1957; H. Roelig, Rubb. Chem. Techn., 18, 62, 1945.

Card 3/b4

32349

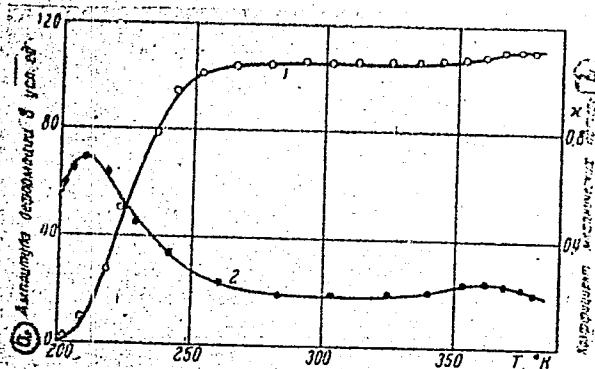
S/190/62/004/001/011/020
B101/B110

Dependence of deformation ...

ASSOCIATION: Moskovskiy gosudarstvennyy pedagogicheskiy institut im.
V. I. Lenina (Moscow State Pedagogical Institute imeni V. I.
Lenin)

SUBMITTED: February 1, 1961

Fig. 3. Data for rubber based on SKS-30. (1) Deformation amplitude, (2) coefficient χ of mechanical losses at $\nu = 0.01$ cycles/min.
Legend: (a) Deformation amplitude in relative units; (b) coefficient of mechanical losses.



Card 4/p4

ZELENEV, Yu.V.; LYALINA, N.M.

Application of Ferry's method for the processing of experimental
data on the dynamic properties of rubberlike network polymers.
Vysokomolos. 5 no.11:1717-1724 N '63. (MIRA 17:1)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut imeni Lenina.

ZELENEV, Yu.V.; BARTENEV, G.M.; DEMISHEV, G.K.

Determination of the dynamic characteristics of polymers by the resonance method. Zav.lab. 29 no.7:868-872 '63. (MIRA 16;8)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im. Lenina.
(Polymers--Testing)

BARTENEV, G. M.; ZELENEV, Yu. V.

"Relaxation properties of amorphous polymers below and above glass-transition temperatures."

report submitted for Intl Conf on Physics of Non-Crystalline Solids, Delft,
Netherlands, 6-10 Jul 64.

Lenin State Teacher's Training College, Moscow.

ACCESSION NR: AP4037288

S/0190/64/006/005/0915/0922

AUTHORS: Zelenov, Yu. V.; Bartenev, G. M.

TITLE: Influence of plasticization on the relaxation properties of rubber-like polymers within wide limits of temperature

SOURCE: Vyssokomolekulyarnye soyedineniya, v. 6, no. 5, 1964, 915-922

TOPIC TAGS: molecular mobility, intramolecular force, mechanical relaxation, low temperature relaxation, electrical relaxation, resonance, dielectric loss, sebacic ester, phthalic ester, rubber NK, rubber SKI, rubber SKB, rubber SKS, rubber SKN, dioctyl sebacinate, dibutyl phthalate, dibutyl sebacinate

ABSTRACT: The influence of plasticizers on the molecular mobility and intramolecular forces in mechanical, low temperature, and electrical relaxations was studied as a continuation of the authors' work in this field. Slightly vulcanized natural and synthetic NK-, SKI-, SKS-, and SKN-rubbers (polar and non-polar), plasticized up to 40% with dioctyl sebacinate, dibutyl phthalate, and dibutyl sebacinate were tested dynamically by imposed resonance and non-resonance vibrations of 10^{-3} to 10^2 cps at -160 to 140C. Dielectric losses were measured in the

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ACCESSION NR: AP4037288

frequency range of $50 - 10^6$ cps at -160 to 100°C. Relation between the width of the n.m.r. line and the temperature as well as the maximum of mechanical losses due to vitrification in the liquid state were determined. A high-temperature maximum at 110-120°C due to reversible destructions of polysulfide bonds and a low-temperature maximum below -130°C due to the mobility of side chains were observed. From the data obtained graphs were plotted, showing relation of: 1) mechanical and dielectric losses to temperature; 2) n.m.r. width to temperature; 3) the displacement of low and high temperature maxima to dibutyl phthalate content; 4) activation energy of relaxation to temperature and to plasticizer content. It was determined that plasticizers are most effective at high temperatures in non-polar rubbers, and at low temperatures in polar rubbers. Activation energy was found to differ for non-polar rubbers at low, standard, and high temperature maxima. Orig. art. has: 5 graphs and 2 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V. I. Lenina
(Moscow State Teachers Institute)

SUBMITTED: 01Jul63

DATE ACQ: 09Jun64

ENCL: 00

SUB CODE: MT, OC

NO REF SOV: 012

OTHER: 002

Card 2/2

ACCESSION NR: AP4040483

S/0190/64/006/006/1047/1053

AUTHORS: Zelenov, Yu. V.; Bartenev, G. M.

TITLE: Relaxation properties of a mixture of rubberlike polymers in a wide interval of temperatures

SOURCE: Vy'sokomolekulyarnye soyedineniya, v. 6, no. 6, 1964, 1047-1053

TOPIC TAGS: polymer, elasticity, vulcanization, molecular mobility, nuclear magnetic resonance, viscoelasticity/ NK rubber, SKB rubber, SKS 30 rubber, SKN 26 rubber, SKN 18 rubber, SKN 40 rubber, PKhPK rubber

ABSTRACT: Studies were made of the relaxation properties of compatible and incompatible rubber-like polymers in mechanical, electrical, and magnetic fields of various frequencies and in the temperature interval from -170 to +140C. The mixtures selected were the rubbers NK + SKB, NK + SKS-30, and SKN-18 + SKN-40, of the compatible variety, and rubbers NK + SKN-18, SKS-30 + SKN-26, and PKhPK + SKN-40 of the incompatible variety. Testing apparatus and measurement methods were the same as those described previously by the authors in Vy'sokomolek. soyed. 4, 66, 1962 and in collaboration with G. K. Domishev in Zavodsk. lab., 1963, No. 7, 868. Tests were conducted by dynamic mechanical methods with the required resonant and nonresonant

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ACCESSION NR: AP4040483

oscillations ranging from 10^{-3} to 10^2 cycles/second. For comparing the processes of molecular relaxation in rubber mixtures for mechanical and electrical fields, dielectric losses were measured in the frequency range from 50 to 10^6 cycles/second and in the temperature range from -170 to 100C. Molecular creep was also observed by the NMR method. Figures are presented showing: 1) the temperature dependence of mechanical and dielectric losses of compatible and incompatible rubbers in the region of transition from high elastic to glass condition; 2) the effect of mix concentration variation on mechanical and dielectric losses with changing temperature; 3) the temperature dependence of the width of the NMR line for selected vulcanized rubbers and their mixtures; 4) temperature dependence of mechanical losses for high- and low-temperature ranges and for compatible and incompatible rubbers in various mix concentrations. Orig. art. has: 5 figures and 2 equations.

ASSOCIATION: Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V. I. Lenina
(Moscow State Pedagogical Institute)

SUBMITTED: 05Jun63

SUB CODE: MT

Card 2/2

NO REF Sov: 018

ENCL: 00

OTHER: 002

ACCESSION NR: AP4043780

AUTHOR: Zelenov, Yu. V., Molotkov, A. P.

TITLE: Relaxation time spectra of rubbery lattice-type polymers

SOURCE: Vy'sokomolekulyarnye soyedineniya, v. 6, no. 8, 1964, 1426-1433

TOPIC TAGS: polymer, rubber, synthetic rubber, lattice polymer, relaxation time

ABSTRACT: In order to contribute to the limited available data on the behavior, in a mechanical or electrical field, of linear polymers undergoing spatial structural changes, the authors investigated the spectral characteristics (height, length and shape) and in different types of rubber and vulcanates with different lattice densities. The spectral characteristics were calculated from relaxation-time spectra and dynamic parameters found in the literature, and from formulas derived by the authors on the basis of the phenomena found in the literature. The types of rubber and vulcanates investigated were the PIE, NK, SKN-18, SKN-26, SKN-30, SKN-40, SKB and SKB sulfurized rubber vulcanates. The LgH vs $\lg \tau$ curves are presented, revealing a maximum region, a transition region and a plateau in the otherwise rather

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S/0190/64/006/008/1426/1433

ACCESSION NR: AP4043780

nonuniform spectral patterns of all these polymers. The spectral height of the synthetic rubbers with lower molecular weights and a less pronounced spatial structure is lower than that of the high-molecular weight polyisobutylene rubber (PIB). Orig. art. has: 6 figures and 15 formulas.

ASSOCIATION: Moskovskiy gosudarstvenny*y pedagogicheskiy institut imeni V. I. Lenina
(Moscow State Pedagogical Institute)

SUBMITTED: 18Sep63

SUB CODE: MT

NO REF SOV: 006

OTHER: 006

2/2
Card

I-34120-66 EWT(m)/EWP(j)/T LJP(c) WW/JWD/RM
ACC NR: AR6017258 SOURCE CODE: UR/0058/65/000/012/EU24/E024

AUTHOR: Bartenev, G. M.; Zelenov, Yu. V.; Ayvazov, A. B.

5/
B

TITLE: Dynamic properties of compositions of polymers// in a wide range of temperatures at low and audio frequencies

SOURCE: Ref. zh. Fizika, Abs. 12E169

REF SOURCE: Uch. zap. Mosk. obl. ped. in-ta, v. 147, 1964, 129-135

TOPIC TAGS: natural rubber, synthetic rubber, amorphous polymer, crystalline polymer, polymer rheology, temperature dependence

ABSTRACT: The dynamic properties of the compositions of rubbers with a plasticizer, the compositions of polyethylene with poly-isobutylene, and of natural and sodium-butadiene rubbers were investigated with two instruments in a wide range of temperatures. Investigations were made of the relaxation properties of complex compositions, pertaining to systems in which one of the components is crystalline and the other amorphous (crystallizing and noncrystallizing). It is shown that the polyethylene-poly-isobutylene composition behaves like a mechanical mixture, while the polyethylene-rubber compositions behave like solutions. An empirical formula is proposed relating the temperature of the additional maximum of the mechanical losses of the composition with the temperatures of the maxima of each of the components and with their concentration in the mixture. [Translation of abstract]

SUB CODE: 07/

Card 1/1 (pla)

L 40298-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AR6014584

SOURCE CODE: UR/0081/65/000/021/S018/S018

52

B

AUTHORS: Bartenev, G. M.; Zelenov, Yu. V.

TITLE: Investigation of the molecular relaxation processes in polymers

SOURCE: Ref. zh. Khimiya, Abs. 21S110

REF SOURCE: Uch. zap. Mosk. obl. ped. in-ta, v. 147, 1964, 137-149

TOPIC TAGS: relaxation process, elastomer, vulcanization, molecular structure

ABSTRACT: Relaxation properties of certain typical polar and nonpolar elastomers were investigated by dynamic and dielectric methods as well as by NMR. Measurements were performed in a frequency range of 10^{-3} - 10^3 hz (mechanical method) and 5×10^4 - 10^7 hz (dielectric method) at -190 to 200°C. Experimental data thus obtained are illustrated as temperature functions of dynamic characteristics. Experiments have shown that thermal and radiation vulcanizers have 2 regions of molecular relaxation while the sulfur vulcanizers have 3. Activation energies of the main and secondary transition processes were determined. Reported data indicate the effect of prior thermal history upon the character of molecular relaxation processes, which is related to the formation of supra-molecular structures. A. Malkin [Translation of abstract]

SUB CODE: 11,20

Card 1/1/mLP

ACCESSION NR: AP4013334

S/0020/64/154/003/0661/0664

AUTHORS: Bartenev, G.M.; Zelenov, Yu. V.

TITLE: Low temperature relaxation processes in rubber like polymers

SOURCE: AN SSSR. Doklady*, v. 154, no. 3, 1964, 661-664

TOPIC TAGS: polymer relaxation, polymer molecular mechanism, low temperature polymer relaxation, polymer dipole moment, polymer dielectric loss, polymer cross-linking, polymer asymmetry, polymer atom group, polymer grid

ABSTRACT: Molecular mechanisms of high and low temperature maxima, i.e. of maximal mechanical (m.m.l.), dipole-elastic and dipole-radical dielectric losses (m.d.l.) are related to changes in the mobility of the segments and side groups of the backbone molecular structure; thus basic and secondary maxima may be distinguished. The study attempted to determine the link between structural, molecular mobility and macroscopic relaxation properties of rubber like

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ACCESSION NR: AP4013334

polymers in natural and synthetic rubbers and their polymeric derivatives. Measurements of the maxima were conducted with dynamic mechanical methods at low mechanical and sound frequencies of 10^{-3} - 10^{-2} hertz in a temperature range of -180 to +25°C. Temperature dependencies of dielectric losses were determined for comparing mechanical and dielectric relaxation processes; molecular structural features and the nature of molecular mobility were additionally studied by IR and NMR scopy. Both basic and secondary m.m.l. and m.d.l. were detected for polar rubber like polymers, in contrast to nonpolar where no secondary m.d.l. were observed. The low dielectric losses of the latter were not reflected in the secondary m.d.l. with the experimental methods used. The basic m.m.l. of polar and non-polar polymers differed insignificantly, while basic m.d.l. differed considerably, due also to the lesser dipole moments of the non-polar polymers. In studies of low-temperature molecular relaxation and its relation to molecular ordering, the nature of vulcanization, e.g. high molecular ordering (in radiation-vulcanized rubber), was reflected in lower m.m.l. The role of supramolecular cross-linking in this behavior is discussed. Orig. art. has: 4

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ACCESSION NR: AP4013334

figures and 1 formula.

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im. V.I. Lenina (Moscow State Pedagogic Institute)

SUBMITTED: 13Jun63

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 012

OTHER: 002

Card 3/3

BARTENEV, G. M.; ZELENEV, Yu. V.

"Über die Vorgänge der Molekulrelaxation von kautschukähnlichen Polymeren."

report submitted for High Polymers Mtg & Rubber Symp, Leipzig, GDR, 23-25 Feb 65.

L 00676-67 ENT(m)/EDP(j) IJP(c) JWD/RM
ACC NR: AP6017860 (A)

SOURCE CODE: UR/0069/66/028/003/0420/0423

AUTHOR: Lozhnov, N. N.; Ilyalina, N. M.; Zelensk, Yu. V.; Bartenev, G. M.

ORG: Scientific Research Institute of the Tire Industry, Moscow (Nauchno-issledovatel'skiy institut shinoj promyshlennosti)

TITLE: Influence of the nature of carbon black surface on the relaxation properties of extended rubbers

SOURCE: Kolloidnyy zhurnal, v. 28, no. 3, 1965, 420-423

TOPIC TAGS: butadiene styrene rubber, carbon black, filler, stress relaxation, polymer structure

ABSTRACT: The influence of the surface character of carbon black fillers on the formation of the reinforced structure of rubber and hence on the molecular mobility and relaxation properties of the rubber was studied. Rubbers based on stereoregular polybutadiene rubber "Europren-cis-1,4" (SKD) and butadiene-styrene rubber "Europren-1500" (BSK) extended with various types of carbon black were employed. Stress relaxation curves of the rubber were recorded on a relaxometer at 20 and 70°C. It was found that the more active the carbon black from the standpoint of its reinforcing effect, the more level is the shape of the relaxation time spectrum, i.e., the greater the role of long relaxation times of the extended systems, owing to a limited mobility of the macromolecules of the reinforced polymer structures. The increase in the number of re-

UDC: 541.183.1

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